

Market Research – Climate Related

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July 20 2010

The Market Research Process

Once the need for marketing research has been established, most marketing research projects involve these steps:

1. Define the problem
2. Determine research design
3. Identify data types and sources
4. Design data collection forms and questionnaires
5. Determine sample plan and size
6. Collect the data
7. Analyze and interpret the data
8. Prepare the research report

Quantitative Research Methods

Quantitative research, including surveys and customer questionnaires, can help small firms to improve their products and services by enabling them to make informed decisions.

Quantitative research is about asking people for their opinions in a structured way so that you can produce hard facts and statistics to guide you.

To get reliable statistical results, it's important to survey people in fairly large numbers and to make sure they are a representative sample of your target market.

Quantitative Research Methods

Quantitative market research typically includes customer surveys and questionnaires.

Can be conducted face-to-face, over the telephone, via post or email, online or via your website.

Survey questions must be carefully considered so that the results will provide meaningful data.

Don't just ask if people know about your business. Ask how often they visit, what products they buy and where else they go to buy the same products and why.

By asking lots of people the same questions, it's possible to build up a clearer picture of how customers behave.

What Quantitative Research can tell you

- Is there a market for your products and services?
- What awareness is there of your product or service?
- How many people are interested in buying your product or service?
- What type of people are your best customers?
- What are their buying habits?
- How are the needs of your target market changing?

Analysing the results of your quantitative research

Collecting data is just one part of the research task.

You have to collate it and analyse it as well.

With a complex survey, this can be a specialist task in order to extrapolate all the findings and drill down into the data to see how different groups have responded.

However, a simple survey can be very effective and highly revealing and small firms can always benefit from asking their customers what they think.

Surveys

Choosing how to conduct your survey is another important issue.

Face-to-face works well if you need to explain anything or show a product to the respondent.

Telephone surveying can also be very effective but it can be hard to catch people when they have time to talk.

If you are sending out surveys by post and email, you may find you have to offer an incentive in order to persuade people to take the time to fill out the questionnaire.

Qualitative Research

Qualitative research seeks out the ‘why’, not the ‘how’ of its topic through the analysis of unstructured information – things like interview transcripts, emails, notes, feedback forms, photos and videos. It doesn’t just rely on statistics or numbers, which are the domain of quantitative researchers.

Qualitative Research

Qualitative research is used to gain insight into people's attitudes, behaviours, value systems, concerns, motivations, aspirations, culture or lifestyles.

It's used to inform business decisions, policy formation, communication and research. Focus groups, in-depth interviews, content analysis, ethnography, evaluation and semiotics are among the many formal approaches that are used.

Qualitative research also involves the analysis of any unstructured material, including customer feedback forms, reports or media clips.

Focus Groups

Focus groups are a form of group interview that capitalises on communication between research participants in order to generate data.

Although group interviews are often used simply as a quick and convenient way to collect data from several people simultaneously, focus groups explicitly use group interaction as part of the method.

This means that instead of the researcher asking each person to respond to a question in turn, people are encouraged to talk to one another: asking questions, exchanging anecdotes and commenting on each others' experiences and points of view.

Focus Groups

The method is particularly useful for exploring people's knowledge and experiences and can be used to examine not only what people think but how they think and why they think that way.

Focus groups were originally used within communication studies to explore the effects of films and television programmes, and are a popular method for assessing health education messages and examining public understandings of illness and of health behaviours.

They are widely used to examine people's experiences of disease and of health services and are an effective technique for exploring the attitudes and needs of staff.

Interviews

Street interviewing

This is an effective method of data collection although not always the most cost effective as it involves people's time as researchers and may involve lots of non-value added interactions for every useful interview.

Face to face interviewing

This is basically a structured conversation. The interviewer should have a one or two sheet guide to the questions that they want to ask. These should be ordered so as not to give too much information to the interviewee to avoid prejudicing their views.

Clean Technology Key Themes

Shifting incentive programs, concerns over the pace of capacity additions, a macro climate inimical to high-beta names, potential difficulty in obtaining financing, and an increasing awareness of the cost incentive programs argue for selective stance.

- Asset plays vs. new technologies
- It's all about the regulations
- It's all about the energy costs
- Credible path to profitability
- Higher growth, higher return

Energy Generation: Solar

Macro factors such as incentives and the availability of raw material feedstocks are significant drivers for solar shares' performance.

Rapid volume growth in polysilicon and modules is expected to drive down solar system prices faster than subsidy digressions in key markets.

Well-funded business models with strong cost-reduction levers may benefit.



Energy Generation: Solar - key points

- Incentives Dominate
- Modules Galore?: New polysilicon manufacturing capacity appears poised to help create abundant module supply.
- Cost Reductions: Two key drivers of cost reduction among silicon-based cell and module manufacturers are reductions in silicon costs and improvements in conversion efficiency levels (% of Sun's electricity generation potential harnessed).
- Competing Technologies Gaining Ground



Energy Generation: Wind Power

The wind energy sector has grown to become a significant producer of zero emission power, and wind continues to show tremendous growth potential driven by rising energy costs and spreading pro-wind policies.



Energy Generation: Wind - key points

- Low cost: Wind is the most affordable form of zero-emission renewable energy and is cost competitive with traditional energy in some sites.
- ...but costs are rising: as higher steel prices are being felt in rising turbine costs.
- Improved technology: allows turbines to capture more energy from the wind and improve reliability, which can lower the cost of wind power produced despite higher turbine pricing.
- Higher scalability. Wind can easily be rolled out on a utility scale with modern wind farm developments often reaching over 500MW.

Energy Generation: Wind - key points

- New markets developing: Europe is an established market, USA, India and China's wind turbine installation is increasing.
- Wind does have limitations: In addition to the rising costs, the most significant issue is the mismatch between attractive wind sites and load centres which can inflate project costs.



Energy Generation: Biofuels

Biofuels continue to attract investor interest, as new technologies, feedstocks and applications provide ways to create value while side-stepping the “food vs. fuel” debate.

Short-term issues that could impact stocks, such as difficulty accessing capital markets and volatile feedstock costs, need to be balanced against longer-term fundamentals, especially government mandates.



Energy Generation: Biofuel - key points

- Two approaches to a 16bn gallon/year industry. Short term: sector will trade off news flow, particularly oil & gas prices (positive if rising), feedstocks (negative if rising) and regulatory news.

Long term: the underlying fundamentals – competitive advantage, supply/demand of feedstocks & related costs, as well as cost structures – should drive success or failure.

- Focus shifting to cellulosic ethanol: Decouples biofuels from agriculture – the “food vs. fuel” risk.
- Consolidation in U.S corn ethanol.
- New technologies complete picture: biocrude, biobutanol, cellulosic ethanol, and biomass-to-liquids

Energy Generation: Bioplastics

Bio-based and biodegradable plastics are emerging as an attractive niche product that downstream processors can use to address feedstock pressures while improving both their brands and the scarcity value of their operations.



Energy Generation: Bioplastics – key points

- Cost and brand considerations drive adoption: Surveys conducted in mid-2007 showed that 72% of US respondents did not know that plastics were derived from oil or natural gas, 40% thought that plastics biodegrade. Consumer demand created by focusing branding efforts, opportunities to reduce energy and waste handling costs and regulatory drivers should encourage growth in the biodegradable.
- Several ways to optimise yields: Some companies are exploring ways to produce biodegradable plastics via non-biological catalytic routes.

Energy Generation: Bioplastics – key points

- Bio based chemicals could compete for feedstocks. The industry is looking at alternatives to petrochemicals that are more renewable, biodegradable and economical, such as Sugarcane, switchgrass, palm oil, soyabeans and waste cellulose.



Energy Generation: Water

Industrial companies involved in the provision, treatment and distribution of fresh water stand to benefit from secular demand drivers and, in some regions, supply constraints. Returns have been solid: the water sector outperformed the S&P 500 by 5% per year, on average since 1998. Investors can do better with a selective approach, given the range of niches and business models.



Energy Generation: Water – key points

- Strong secular trends: the water sector has outperformed the S&P 500 over the past decade in part due to strong secular growth drivers: demand for fresh water for population growth, ongoing industry consolidation; aging infrastructure and growing recognition that water issues are a limiting factor for a range of industries.
- Stay selective: The water sector should reach \$500bn in sales this year. Despite the attractive macro trends, a selective stance is advised due to political risks, fragmented end markets, a scarcity of “pure play” investments, and difficulty raising prices to consumers can undermine returns. Thematically, key opportunities are in infrastructure replacement, process efficiency, and turn key solutions.

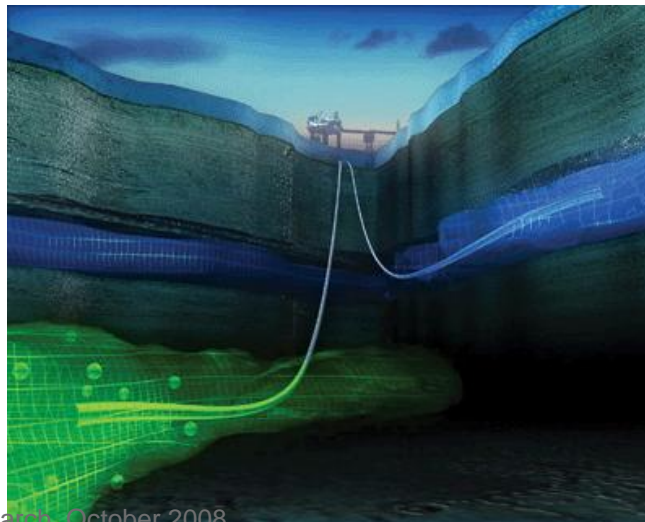
Energy Generation: Water – key points

- Balance valuations with earnings visibility: secular growth drivers, droughts in several regions, and limited cyclical risk have contributed to a sharp expansion in water valuation multiples since the 1990s, with utilities and water treatment companies trading at the most elevated relative multiples.



Energy Generation: Carbon Sequestration

Carbon sequestration is a catch-all term for the capture of harmful CO₂ emissions, principally from coal-fired power and industrial plants, and subsequent transport for eventual storage or use in industrial or energy applications. Carbon sequestration throws out many challenges due to its capital intensity, impact of power prices, and transport and storage unknowns.



Energy Generation: Carbon Sequestration – key points

- Cost of carbon capture will be high: Many estimates assume the capture of carbon emissions will range from \$40-70/ton.
- Technology could be a solution as many companies and governments are developing alternative capture processes designed to lower cost.
- Clarity on carbon costs will be an increasingly important issue.
- Transportation of CO₂ will be an issue as high-pressure CO₂ cannot be transported in the existing low-pressure natural gas network.
- Storage of CO₂ is another hot topic as not only are some proposed sites controversial (e.g. deep sea storage) but, once stored, the CO₂ will not simply seep back to the surface.

Energy Generation: Battery Technology

It is expected the advanced battery technology will grow faster than GDP due to strong growth on consumer electronics, wireless telecom and hybrid vehicles. This primer focuses on rechargeable batteries, which account for only 10% of unit volume, but importantly, 63% of revenues. The rechargeable market is segmented into three main areas, Transportation, Industrial, and Portable application.

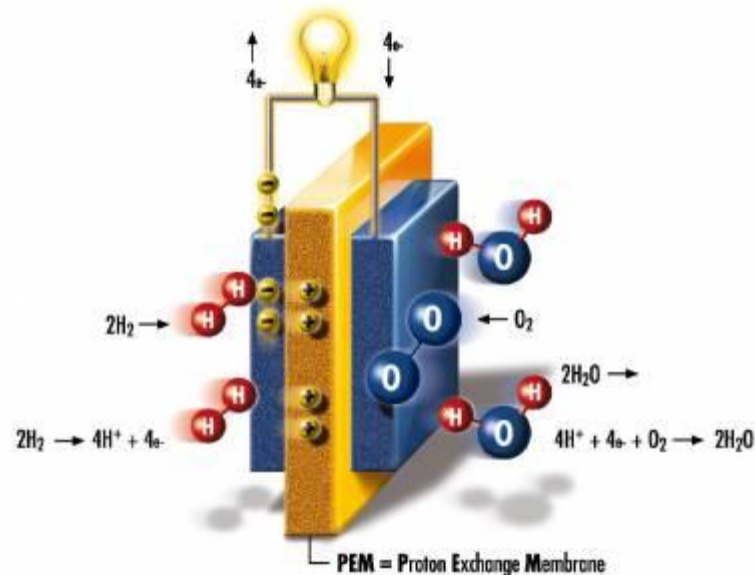


Energy Generation: Battery Technology – key points

- Rechargeable battery industry expected to grow faster than global GDP: Industry growth is expected to be driven by increased demand from developing economies, proliferation of consumer devices, and new uses for industrial batteries, including hybrid vehicles and clean energy storage.
- Market share growth for higher energy density products. In general, higher energy density products should grow faster than low energy products.
- Hybrid vehicle demand a key catalyst of industrial battery growth.
- Ultracapacitors act as a supplement to batteries.

Energy Generation: Fuel Cell

Fuel cells offer tremendous potential for conversion of stored energy in both stationary and mobile applications. However, the high costs and performance issues will remain significant barriers to mass deployment for several years.



Energy Generation: Fuel Cell – key points

- Cost: the cost of fuel cells is significantly higher than both traditional forms of generation and power storage. Prices must be significantly reduced before cells can be rolled out on a commercial scale for either generation or storage applications.
- Durability: fuel cells tend to be very fragile and unproven. There is a range of durability issues that the industry faces.
- Infrastructure hurdles due to existing gas pipelines.
- Environmental benefits: Fuel cells generally have a lower emission and higher efficiency than the technologies they displace.
- First adopters: stationary generation and portable military/security users.

Energy Generation: Nuclear

In the ongoing debate over the environmental footprint of nuclear power and the political will to build new plants, underlying economics are often a footnote.



Energy Generation: Nuclear – key points

- Nuclear investments require subsidies: in the absence of sizeable subsidies by the government, the economics do not justify building merchant nuclear generation in the U.S.
- Costs can be significant: with costs for new nuclear generation currently ranging from \$2400 to \$4540 per kilowatt, it is estimated that power prices of at least \$100/megawatt would be required to economically build new nuclear generation without subsidies.
- Fuel costs can have an impact.

Market Research

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